Struijs P, Damen P, et al. Manipulation of the Wrist for Management of Lateral Epicondylitis: A Randomized Pilot Study. Phys Ther 2003;83:606-616.

Design: Randomized clinical trial

Brief summary of results:

- 28 patients (15 men, 13 women, mean age 47) with lateral epicondylitis (LE) were referred to a university orthopedics department in Amsterdam by their general practitioners and completed 6 weeks of study
- Inclusion criteria were diagnosis of LE confirmed by one of the authors, with symptoms present for more than 6 weeks and less than 6 months
- Exclusion criteria were bilateral complaints, definite decrease in complaints in past 2 weeks, severe neck or shoulder problems, and having no limitation in range of motion
- 31 patients began the study and were randomized to manipulation (n=15) or a combination of ultrasound, friction massage, and exercise (n=16)
- Manipulation was done in 9 sessions over a period of 6 weeks, and consisted of the therapist extending the wrist dorsally while manipulating the scaphoid bone ventrally at the same time; the procedure was repeated about 20 times in a session lasting 15 to 20 minutes
- The control group also had 9 sessions over a 6 week period, with pulsed ultrasound for 7 ½ minutes, 10 minutes of friction massage, and instruction in muscle strengthening and stretching after the pain subsided; exercise was gradually intensified with increasing resistance
- The massage group had no instructions on activity limitation; the control group activities were limited by the pain threshold
- Several outcomes were measured: global improvement (defining success/failure), grip strength (pain-free and maximal), and several measures of pain on a 10 point VAS—current pain, pain during the day, pain interfering with activity, and intensity of the patient's main complaint
- At 3 weeks, global improvement was seen in 8/13 manipulation patients and in 3/15 control patients (p=0.05, Fisher's exact test)
- At 6 weeks, global improvement was seen in 11/13 manipulation patients and in 10/15 control patients (p=0.4)
- At 6 weeks, pain during the day showed a mean decrease from baseline of 5.2 points in the manipulation group and 3.2 points in the control group (p=0.03)
- No statistically significant differences were observed for any other outcome at either 3 weeks or 6 weeks

Authors' conclusions:

- Manipulation of the wrist may have additional treatment advantages compared with ultrasound, friction massage, and exercise
- The number of outcome measures may have increased the likelihood of type I error in the study, but this is limited by an a priori hierarchy in outcome measures

- Manipulation was done by an experienced therapist, and same success might not occur with less experienced therapist
- Only short-term outcomes were investigated, and recurrence of complaints may have occurred in the long term
- Larger-scale studies with longer-term follow-up are needed

Comments:

- Authors point out several limitations of the study (short-term outcomes, small study size)
- The authors assert that they controlled type I error by an a priori hierarchy of outcome measures, but there is no description of a plan to partition the alpha (the p=0.05) across primary and secondary outcome measures; the between-group group results are statistically indistinguishable
- The control group had instruction in exercise “when pain subsided;” a description of the pain induced by the friction massage would have been informative and made the comparison of treatment strategies easier

Assessment: Interesting pilot study, but inadequate to support an evidence statement. Manipulation may still be a reasonable option (with less pain than massage).